


Subject	BIOLOGY	Grade	9	 COLEGIO COLOMBO BRITÁNICO
Student		Date		

ASSESSMENT TASK - PENGUIN HUDDLING

You have to design an experiment to investigate the effect of huddling on individual penguins temperatures.

Your work should be presented in the following way:

- **Aim** - What are you going to investigate?
- **Hypothesis** - Make a prediction with a detailed scientific explanation of what you think?
- **Variables** - Independent, Dependent and Controlled.
- **Materials** - Detailed list of equipment.
- **Method** - Describe in steps what you will do, remember to use command words to start the sentence.
- **Results** - Table of data and graph remember labels and units.
- **Conclusion** - Describe and explain your results correctly using scientific reasoning.
- **Evaluation** - Discuss the validity of your hypothesis based on the data you collected (how confident are you? why?), discuss the validity of the method (did you manipulate the variables so it was a fair test?) and describe improvements and extensions (further experiments).

The planning is in **pairs** however the write up is in **individual**. You will be graded on **Criteria B and C**.

CRITERIA AND ASSESSMENT RUBRICS

Criterion B: Inquiring and Design

level	Level descriptor	Student	Teacher
0	The student does not reach a standard described by any of the descriptors below.		
1-2	The student is able to: i. select a problem or question to be tested by a scientific investigation ii. select a testable prediction iii. state a variable iv. design a method with limited success .		
3-4	The student is able to: i. state a problem or question to be tested by a scientific investigation ii. state a testable prediction iii. state how to manipulate the variables, and state how data will be collected iv. design a safe method in which he or she selects materials and equipment .		
5-6	The student is able to: i. state a problem or question to be tested by a scientific investigation ii. outline a testable prediction iii. outline how to manipulate the variables, and state how relevant data will be collected iv. design a complete and safe method in which he or she selects appropriate materials and equipment .		
7-8	The student is able to: i. outline a problem or question to be tested by a scientific investigation ii. outline a testable prediction using scientific reasoning iii. outline how to manipulate the variables, and outline how sufficient, relevant data will be collected iv. design a logical, complete and safe method in which he or she selects appropriate materials and equipment .		

Criterion C: Processing and Evaluating

level	Level descriptor	Student	Teacher
0	The student does not reach a standard described by any of the descriptors below.		
1-2	<p>The student is able to:</p> <ul style="list-style-type: none"> i. collect and present data in numerical and/or visual forms ii. interpret data iii. state the validity of a prediction based on the outcome of a scientific investigation, with limited success iv. state the validity of the method based on the outcome of a scientific investigation, with limited success v. state improvements or extensions to the method that would benefit the scientific investigation, with limited success. 		
3-4	<p>The student is able to:</p> <ul style="list-style-type: none"> i. correctly collect and present data in numerical and/or visual forms ii. accurately interpret data and outline results iii. state the validity of a prediction based on the outcome of a scientific investigation iv. state the validity of the method based on the outcome of a scientific investigation v. state improvements or extensions to the method that would benefit the scientific investigation. 		
5-6	<p>The student is able to:</p> <ul style="list-style-type: none"> i. correctly collect, organize and present data in numerical and/or visual forms ii. accurately interpret data and outline results using scientific reasoning iii. outline the validity of a prediction based on the outcome of a scientific investigation iv. outline the validity of the method based on the outcome of a scientific investigation v. outline improvements or extensions to the method that would benefit the scientific investigation. 		
7-8	<p>The student is able to:</p> <ul style="list-style-type: none"> i. correctly collect, organize, transform and present data in numerical and/or visual forms ii. accurately interpret data and outline results using correct scientific reasoning iii. discuss the validity of a prediction based on the outcome of a scientific investigation iv. discuss the validity of the method based on the outcome of a scientific investigation v. describe improvements or extensions to the method that would benefit the scientific investigation. 		

Student Reflection

Teacher Feedback